

WHAT IS CLAIMED IS:

1. A conversion apparatus receiving a document and a script as receiving data, comprising:  
storage means for storing at least the script extracted from the receiving data; and  
substitution means for substituting a script calling portion in the document with a portion for calling the script stored in said storage means.
2. A conversion apparatus according to claim 1, wherein the script is embedded in or attached to the document.
3. A conversion apparatus according to claim 2, wherein the document and the script are separately provided.
4. A conversion apparatus according to claim 1, wherein said conversion apparatus is provided in a relay server for sending and receiving data to and from a client.
5. A conversion apparatus according to claim 1, wherein said storage means stores the document and the script.

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6. A conversion method comprising:

a receiving step of receiving a document and a script as receiving data;

a storage step of storing at least the script extracted from the receiving data; and

a substitution step of substituting a script calling portion in the document with a portion for calling the script stored in said storage means.

7. A conversion method according to claim 6, wherein the script is embedded in or attached to the document.

8. A conversion method according to claim 7, wherein the document and the script are separately provided.

9. A conversion method according to claim 6, wherein said storage step stores the document and the script.

10. A script conversion system comprising a relay server for sending and receiving data to and from at least one client, said script conversion system being used for requesting a document and displaying the requested document by said client,

said relay server comprising:

conversion means for receiving a document and a

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script, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

script execution means for executing the script, wherein said relay server sends the converted document to said client, and a script called by said client is executed by said script execution means.

11. A script conversion system according to claim 10, wherein said client comprises a portable communication terminal.

12. A script conversion system according to claim 10, wherein said relay server receives the document directly from a document server in which documents are stored, or from said document server via an external recording medium.

13. A script conversion system according to claim 10, wherein the script is embedded in or attached to the document.

14. A script conversion system according to claim 13,

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wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said storage means stores the script in said script storage means, and the script calling portion in the document is substituted with the portion for calling the script stored in said script storage means.

15. A script conversion system according to claim 14, wherein the display portion and the script are separately provided directly from different document servers or from different document servers via external recording media.

16. A script conversion system according to claim 10, wherein said storage means comprises document storage means for storing at least the document, and said storage means stores the document and the script in said document storage means.

17. A script conversion system according to claim 10, wherein, when an execution result document obtained as a result of executing the script in said relay server is output, the execution result document is returned to said client, and is displayed in said client.

18. A script conversion system according to claim 10, wherein said client comprises ID information storage means for storing ID information which specifies a caller, and said relay server comprises authentication means for receiving the ID information from said client and for comparing the ID information with a list of ID information which is allowed to use said relay server, and wherein said authentication means determines whether said client is allowed to use said relay server based on an authentication result of said authentication means.

19. A script conversion system according to claim 18, further comprising accounting means for performing accounting to bill the client which is determined to be allowed to use said relay server by said authentication means for the use of: a conversion function for receiving the document and the script, extracting at least the script from the document and the script and separately storing the script in said storage means, substituting the script calling portion in the document with the portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and an execution function for executing the script in the converted document called by said client.

20. A script conversion system according to claim 19, wherein said accounting means updates accounting information corresponding to the ID information every time said client uses the conversion function and the execution function.

21. A script conversion system according to claim 10, wherein said relay server serves the functions of a document server by storing the document in said relay server in advance.

22. A script conversion method for requesting from at least one client to a document server to send a document via a relay server and displaying the requested document in said client and for displaying the received document, said script conversion method comprising:

a conversion step of receiving the document and a script from said document server by said relay server, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

a script execution step of sending the converted document to said client and executing a script in the converted document called by said client.

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23. A script conversion method according to claim 22, wherein said client comprises a portable communication terminal.

24. A script conversion method according to claim 22, wherein the script is embedded in or attached to the document.

25. A script conversion method according to claim 24, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said conversion step stores the script in said script storage means, and substitutes the script calling portion with the portion for calling the script stored in said script storage means.

26. A script conversion method according to claim 25, wherein the display portion and the script are separately provided directly from different document servers or from different document servers via external recording media.

27. A script conversion method according to claim 22, wherein said conversion step comprises a document storage step and a script storage step, and said conversion step

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stores the document and the script in said document storage step.

28. An accounting method comprising:

an authentication step of receiving ID information provided for a client, comparing the ID information with a list of ID information which is allowed to use a relay server, and determining whether said client is allowed to use said relay server based on a comparison result; and

an accounting step of performing accounting to bill the client which is determined to be allowed to use said relay server in said authentication step for the use of: a conversion function for receiving a document and a script from a document server, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and an execution function for returning the converted document to said client and executing the script in the converted document called by said client.

29. An accounting method according to claim 28, wherein accounting information corresponding to the ID information received from said client is updated every time

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said client uses the conversion function and the execution function.

30. An accounting method according to claim 28, wherein said client comprises a portable communication terminal.

31. An accounting method according to claim 28, wherein the script is embedded in or attached to the document.

32. An accounting method according to claim 28, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, the conversion function stores the script in said script storage means, and substitutes the script calling portion in the document with the portion for calling the script stored in said script storage means.

33. An accounting method according to claim 32, wherein the display portion and the script are separately provided directly from different document servers or from different document servers via external recording media.

34. An accounting method according to claim 28, wherein said storage means comprises document storage means for storing at least the document, and said conversion function stores the document and the script in said document storage means.

35. A script conversion system comprising a broadcast station transmitter and a broadcast receiver for receiving a broadcast containing a document from said broadcast station transmitter and for outputting the document to at least one client and displaying the document in said client,

said broadcast receiver comprising:

conversion means for receiving the document and a script, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

script execution means for executing the script,

wherein said broadcast receiver sends the converted document to said client, and the script in the converted document called by said client is executed by said script execution means.

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36. A script conversion system according to claim 35, wherein said client comprises a broadcast receiving remote terminal.

37. A script conversion system according to claim 35, wherein said broadcast receiver receives the document from said broadcast station transmitter via an external recording medium.

38. A script conversion system according to claim 35, wherein the script is embedded in or attached to the document.

39. A script conversion system according to claim 35, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said conversion means stores the script in said script storage means, and substitutes the script calling portion in the document with the portion for calling the script stored in said script storage means.

40. A script conversion system according to claim 39, wherein the display portion and the script are separately provided directly from different broadcast station

transmitters, or from different broadcast station transmitters via external recording media, or from different program channels transmitted from a broadcast station transmitter.

41. A script conversion system according to claim 35, wherein said storage means comprises document storage means for storing at least one script, and said conversion means stores the document and the script in said document storage means.

42. A script conversion system according to claim 35, wherein, when an execution result document obtained as a result of executing the script in said broadcast receiver is output, the execution result document is returned to said client, and is displayed in said client.

43. A script conversion system according to claim 35, wherein said script execution means of said broadcast receiver executes the script by using a broadcasting extended function.

44. A script conversion method for receiving a broadcast containing a document from a broadcast station transmitter by a broadcast receiver, and for distributing

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the document from said broadcast receiver to at least one client and displaying the document in said client, said script conversion method comprising:

a conversion step of receiving the document and a script from said broadcast station transmitter by said broadcast receiver, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

a script execution step of sending the converted document to said client, and of executing the script in the converted document called by said client.

45. A script conversion method according to claim 44, wherein said client comprises a broadcast receiving remote terminal.

46. A script conversion method according to claim 44, wherein the script is embedded in or attached to the document.

47. A script conversion method according to claim 46, wherein said storage means comprises script storage means,

and, when a display portion and the script, which form the document, are separately provided, said conversion step stores the script in said script storage means, and substitutes the script calling portion in the document with the portion for calling the script stored in said script storage means.

48. A script conversion method according to claim 47, wherein the display portion and the script are separately provided directly from different broadcast station transmitters, or from different broadcast station transmitters via external recording media, or from different program channels transmitted from a broadcast station transmitter.

49. A script conversion method according to claim 44, wherein said storage means comprises document storage means for storing at least the document, and said conversion means stores the document and the script in said document storage means.

50. A script conversion system comprising a client, a remote control server for issuing a device control signal by executing a script in an operation menu document displayed in said client, a controlled device controlled by the device

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control signal,

said remote control server comprising:

conversion means for receiving a document and the script, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

script execution means for executing the script,

wherein said remote control server sends the converted document to said client, and the script in the converted document called by said client is executed by said script execution means.

51. A script conversion system according to claim 50, wherein said client comprises a remote controller for controlling said controlled device.

52. A script conversion system according to claim 50, wherein said remote control server receives the document directly from a document server which stores documents, or from said document server via an external recording medium.

53. A script conversion system according to claim 50,

wherein the script is embedded in or attached to the document.

54. A script conversion system according to claim 53, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said conversion means stores the script in said script storage means, and substitutes the script calling portion in the document with the portion for calling the script stored in said script storage means.

55. A script conversion system according to claim 54, wherein the display portion and the script are separately provided directly from different document servers or different controlled devices, or from different document servers or different controlled devices via external recording media.

56. A script conversion system according to claim 50, wherein said storage means comprises document storage means for storing at least the document, and said conversion means stores the document and the script in said document storage means.

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57. A script conversion system according to claim 50, wherein, when an execution result document obtained as a result of executing the script in said remote control server is output, the execution result document is returned to said client, and is displayed in said client.

58. A script conversion system according to claim 50, wherein said remote control server serves the functions of a document server by storing the document in said remote control server in advance.

59. A script conversion system according to claim 50, wherein said remote control server receives available documents from a document server in advance, converts the received documents, and stores the converted documents, and, when a document request is issued by said client, said remote control server extracts the requested document from the stored documents and returns the extracted document to said client.

60. A script conversion system according to claim 50, wherein said controlled device serves the function of a document server for providing the document to said remote control server.

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61. A script conversion system according to claim 50, wherein said remote control server comprises storage means for storing ID information which specifies a caller, and authentication means for receiving the ID information and for comparing the ID information with a list of ID information which is allowed to use said remote control server, and wherein said authentication means determines whether said client is allowed to use said remote control server based on an authentication result of said authentication means.

62. A script conversion system according to claim 61, further comprising accounting means for performing accounting to bill the client which is determined to be allowed to use said remote control server by said authentication means for the use of: a conversion function for receiving the document and the script, extracting at least the script from the document and the script and separately storing the script in said storage means, substituting the script calling portion in the document with the portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; an execution function for returning the converted document to said client and executing the script in the converted document called by said client; and a control

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function for controlling said controlled device by the device control signal generated as a result of executing the script.

63. A script conversion system according to claim 62, wherein said accounting means updates accounting information corresponding to the ID information every time said client uses the conversion function, the execution function, and the control function.

64. A script conversion method for issuing a device control signal by a script in an operation menu document displayed in a client to a controlled device when said client controls said controlled device via a remote control server, said script conversion method comprising:

a conversion step of receiving a document and the script, extracting at least the script from the document and the script and storing the script in storage means, substituting a script calling portion in the document with a portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; and

a script execution step of sending the converted document to said client, and of executing the script in the converted document called by said client.

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65. A script conversion method according to claim 64, wherein said client comprises a remote controller for controlling said controlled device.

66. A script conversion method according to claim 64, wherein the script is embedded in or attached to the document.

67. A script conversion method according to claim 64, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said conversion step stores the script in said script storage means, and substitutes the script calling portion in the document with the portion for calling the script stored in said script storage means.

68. A script conversion method according to claim 64, wherein the display portion and the script are separately provided directly from different document servers or different controlled devices, or from different document servers or different controlled devices via external recording media.

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69. A script conversion method according to claim 64, wherein said storage means comprises document storage means for storing at least the document, and said conversion step stores the document and the script in said document storage means.

70. An accounting method comprising:

an authentication step of receiving ID information from a remote control server or from a client for controlling a controlled device via said remote control server, comparing the ID information with a list of ID information which is allowed to use said remote control server, and determining whether said client is allowed to use said remote control server based on a comparison result; and

an accounting step of performing accounting to bill the client which is determined to be allowed to use said remote control server in said authentication step for the use of: a conversion function for receiving the document and the script, extracting at least the script from the document and the script and storing the script in said storage means, substituting the script calling portion in the document with the portion for calling the script stored in said storage means, and outputting a resulting document as a converted document; an execution function for returning the converted document to said client and executing the script in the

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converted document called by said client; and a control function for controlling said controlled device by the device control signal generated as a result of executing the script.

71. An accounting method according to claim 70, wherein accounting information corresponding to the ID information is updated every time said client uses the conversion function, the execution function, and the control function.

72. An accounting method according to claim 70, wherein said client comprises a remote controller for controlling said controlled device.

73. An accounting method according to claim 70, wherein the script is embedded in or attached to the document.

74. An accounting method according to claim 70, wherein said storage means comprises script storage means, and, when a display portion and the script, which form the document, are separately provided, said conversion function stores the script in said script storage means, and substitutes the script calling portion in the document with

the portion for calling the script stored in said script storage means.

75. An accounting method according to claim 70, wherein the display portion and the script are separately provided directly from different document servers or different controlled devices, or from different document servers or different controlled devices via external recording media.

76. An accounting method according to claim 70, wherein said storage means comprises document storage means for storing at least the document, and said conversion function stores the document and the script in said document storage means.

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